



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,708	02/03/2004	Christian Gartner	100727-63/ Heraeus 414	1315
27384 7590 02/12/2007 NORRIS, MCLAUGHLIN & MARCUS, PA 875 THIRD AVENUE 18TH FLOOR NEW YORK, NY 10022			EXAMINER WERNER, JONATHAN S	
			ART UNIT	PAPER NUMBER
			3732	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/770,708

Applicant(s)

GARTNER ET AL.

Examiner

Jonathan Werner

Art Unit

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to Applicant's amendment received 11/13/06.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/13/06 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 recites the limitation "previously scanned" in step (e). There is insufficient antecedent basis for this limitation in the claim. Based on the current claim language, it is unclear how the data records can come from "fabricated, previously scanned teeth" when all previous steps refer to virtual 3-D data of an oral cavity – as interpreted from the language it seems that a step is missing, such as the step of scanning a previously fabricated tooth. Applicant remarks that step (e)

Art Unit: 3732

actually refers to an independent selection of 3-D data records of artificial teeth that have previously been scanned. Examiner recommends further clarifying this step in the claim language in order to better convey Applicant's intentions. For the purpose of examination, Examiner will understand the "fabricated, previously scanned teeth" to mean a previously scanned fabricated artificial tooth.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10, 13-15, and 17-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan (US 6,152,731) in view of Poirier (US 2002/0102517). As to claims 10 and 17, Jordan discloses a method of creating a dental prosthesis comprising recording and digitizing 3-D relationships in an oral cavity (Abstract; Figure 4); recording and digitizing 3-D data on bite/occlusion rims (22, Figure 6A; column 17, ln 2-18); recording of mandibular data (Abstract); processing recorded data and obtaining a virtual model that includes a virtual placement of teeth (Figure 6B; col 17, ln 19-24); virtual placement of scanned teeth into the virtual model (Figure 6B); transferring the virtual placement to the model by direct placement of the fabricated teeth on the model (col 17, ln 27-37); affixing the teeth to the model (Figure 6B); attachment of a denture base (Figure 6B); and direct manufacture of a denture base according to data for a

Art Unit: 3732

virtual denture placement, with positioning aids for positioning and affixing (22, Figures 6A-6B). Although Jordan shows the selection of 3-D data records of previously scanned teeth (column 24, lines 35-45), Jordan does not explicitly show the scanning is of artificial teeth. However, Poirier teaches a method of making a dental prosthesis (i.e. paragraph 0054) in which 3-D images of a patient's intra-oral cavity are combined with 3-D images of false teeth of reference in order to generate a complete 3-D computer model (see flowchart of Figure 5). Therefore, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to select 3-D data records of artificial teeth for virtual placing of the teeth into a separate 3-D model in order to create a complete 3-D model showing certain anatomical relationships, such as between a patient's gum surfaces and the superimposed cortical bone structure housing the scanned tooth models as taught by Poirier. As to claim 13, mandibular movements are simulated in/on a computer (col 23, ln 50-61; col 24, ln 3-4). As to claim 14, occlusion is inspected in/on the computer (col 23, ln 62-64). As to claim 15, Jordan discloses the placement of teeth is manually corrected and a new calculation is performed to adapt to the bite and occlusion data (col 21, ln 17-45). As to claim 18, Jordan discloses the use of a device for the manufacture of a dental prosthesis comprising a scanning or recording apparatus (col 4, ln 21-22); a processing device (30,40); a 3-D data record (Figures 4-5); a processing module (10,20); a simulation module (col 23, ln 56-64; col 24, ln 3-4); and a device for forming a denture base from data records (Figure 6B). It should be noted that in a product claim, patentable weight is not given to the process by which the configuration is optimized if the final product is shown regardless of the

Art Unit: 3732

process used. Additionally, patentable weight is not given to the intended use of a device in apparatus claims based on the functional language used in said claims.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan in view of Poirier and further in view of Baumrind (US 6,621,491). Jordan and Poirier disclose a method of creating a dental prosthesis as previously described but fails to show that an oral situation is recorded directly using a 3-D camera. Baumrind, however, teaches a method for recording 3-D diagnostic data of an oral situation using a 3-D camera (30, Figure 1; col 3, ln 35-40 and 48-51). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to record an oral situation using a 3-D camera in order to provide a holistic view of the patient for treatment purposes as taught by Baumrind.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan in view of Poirier and further in view of Chishti (US 5,975,893). Jordan and Poirier disclose a method of creating a dental prosthesis as previously described but fails to show scanning a plaster model. Chishti, however, teaches scanning a plaster cast of teeth to obtain 3-D data (col 5, ln 38-48). Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to scan a plaster model so that the patient is not exposed to X-rays as taught by Chishti.

Art Unit: 3732

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan in view of Poirier further in view of Brodtkin (US 2002/0033548). Jordan and Poirier disclose a method of creating a dental prosthesis as previously described but fails to show the positioning template is milled or rapid prototyped. Brodtkin, however, teaches dental restorations formed by milling or rapid prototyping (paragraphs 3 and 10). Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to mill or rapid prototype the positioning template since the machines make dental restoration designs based on the data supplied into small complex shapes and can thus reduce labor and increase structural reliability as taught by Brodtkin.

Response to Arguments

8. Applicant's arguments with respect to claim 10, in particular step (e), have been considered but are moot in view of the new ground(s) of rejection as shown above. Examiner also notes that though Applicant's amendment was sufficient to overcome some of the problems regarding the rejection of claims under 35 U.S.C. 112, second paragraph, some problems still remain as specified in the rejection above.

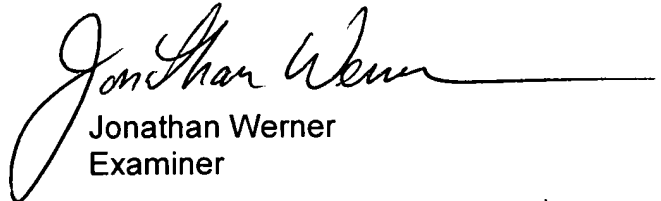
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Werner whose telephone number is (571) 272-2767. The examiner can normally be reached on Monday-Friday.


Art Unit: 3732

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Jonathan Werner
Examiner

1/31/07


MELBA N. BUMGARNER
PRIMARY EXAMINER